6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R09-OAR-2019-0709; FRL-10025-14-Region 9]

Approval of Air Quality Implementation Plans; California; Eastern Kern; 8-Hour Ozone

Nonattainment Area Requirements

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is taking final action to approve, or conditionally approve, all or portions of three state implementation plan (SIP) revisions submitted by the State of California to meet Clean Air Act (CAA or "the Act") requirements for the 2008 8-hour ozone national ambient air quality standards (NAAQS or "standards") in the Eastern Kern, California ("Eastern Kern") ozone nonattainment area. In this action, the EPA refers to these submittals collectively as the "2017 Eastern Kern Ozone SIP." The 2017 Eastern Kern Ozone SIP addresses certain nonattainment area requirements for the 2008 ozone NAAQS, including the requirements for an emissions inventory, attainment demonstration, reasonable further progress, reasonably available control measures, contingency measures, among others; and establishes motor vehicle emissions budgets. The EPA is taking final action to approve the 2017 Eastern Kern Ozone SIP as meeting all the applicable ozone nonattainment area requirements except for the contingency measure requirement, for which the EPA is taking final action to conditionally approve, and the reasonably available control measures and attainment demonstration requirements, for which the EPA is deferring action at this time.

DATES: This rule will be effective on [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: The EPA has established a docket for this action under Docket ID No. EPA-R09-OAR-2019-0709. All documents in the docket are listed on the *https://www.regulations.gov*

web site. Although listed in the index, some information is not publicly available, e.g., Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available through https://www.regulations.gov, or please contact the person identified in the FOR FURTHER INFORMATION CONTACT section for additional availability information. If you need assistance in a language other than English or if you are a person with disabilities who needs a reasonable accommodation at no cost to you, please contact the person identified in the FOR FURTHER INFORMATION CONTACT section.

FOR FURTHER INFORMATION CONTACT: John Ungvarsky, Air Planning Office (AIR-2), EPA Region IX, 75 Hawthorne Street, San Francisco, CA 94105, (415) 972-3963 or ungvarsky.john@epa.gov.

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I. Summary of the Proposed Action

On October 28, 2020, the EPA proposed to approve, under Clean Air Act (CAA) section 110(k)(3), and to conditionally approve, under CAA section 110(k)(4), all or portions of three submittals from the California Air Resources Board (CARB) and the Eastern Kern Air Pollution Control District (EKAPCD or "District") as revisions to the California SIP for the Eastern Kern ozone nonattainment area. The three SIP revisions include the "2017 Ozone Attainment Plan For 2008 Federal 75 ppb 8-Hour Ozone Standard" ("Eastern Kern 2017 Ozone Plan"), the Eastern Kern portion of the "2018 Updates to the California State Implementation Plan" ("2018

¹ 85 FR 68268. Eastern Kern is located on the western edge of the Mojave Desert, separated from populated valleys and coastal areas to the west and south by several mountain ranges. For a precise description of the geographic boundaries of the Eastern Kern ozone nonattainment area, see 40 CFR 81.305.

² Submitted by letter dated October 25, 2017, from Richard W. Corey, Executive Officer, CARB, to Alexis Strauss, Acting Regional Administrator, EPA Region IX.

SIP Update"),³ and the "Transportation Conformity Budget State Implementation Plan Update for the Eastern Kern 2017 Ozone Attainment Plan" ("2020 Conformity Budget Update").⁴ Collectively, we refer to the relevant portions of the three SIP revisions as the "2017 Eastern Kern Ozone SIP," and we refer to our October 28, 2020 proposed rule as the "proposed rule."

In our proposed rule, we provided background information on the ozone standards,⁵ area designations, related SIP revision requirements under the CAA, and the EPA's implementing regulations for the 2008 ozone standards, referred to as the 2008 Ozone SIP Requirements Rule ("2008 Ozone SRR"). To summarize, at the time of our proposed rule, the Eastern Kern ozone nonattainment area was classified as "Serious" for the 2008 ozone NAAQS, and the 2017 Eastern Kern Ozone SIP was developed to address the statutory and regulatory requirements for revisions to the SIP for the Eastern Kern Serious ozone nonattainment area.⁶

In our proposed rule, we also discussed a decision issued by the D.C. Circuit Court of Appeals in *South Coast Air Quality Management Dist. v. EPA* ("*South Coast II*")⁷ that vacated certain portions of the EPA's 2008 Ozone SRR. The only aspect of the *South Coast II* decision that affects this action is the vacatur of the provision in the 2008 Ozone SRR that allowed states to use an alternative baseline year for demonstrating reasonable further progress (RFP). To

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³ Submitted electronically on December 11, 2018 as an attachment to a letter dated December 5, 2018 from Richard W. Corey, Executive Officer, CARB, to Mike Stoker, Regional Administrator, EPA Region IX.

⁴ Submitted electronically on August 31, 2020, as an attachment to a letter dated August 25, 2020, from Richard W. Corey, Executive Officer, CARB, to John Busterud, Regional Administrator, EPA Region IX.

⁵ Ground-level ozone pollution is formed from the reaction of volatile organic compounds (VOC) and oxides of nitrogen (NO_X) in the presence of sunlight. The 1-hour ozone NAAQS is 0.12 parts per million (ppm) (one-hour average), the 1997 ozone NAAQS is 0.08 ppm (eight-hour average), and the 2008 ozone NAAQS is 0.075 ppm (eight-hour average). CARB refers to reactive organic gases (ROG) in some of its ozone-related submittals. The CAA and the EPA's regulations refer to VOC, rather than ROG, but both terms cover essentially the same set of gases. In this final rule, we use the term (VOC) to refer to this set of gases.

⁶ On May 15, 2021, CARB requested that the EPA voluntarily reclassify Eastern Kern to "Severe" for the 2008 ozone NAAQS, and we approved the reclassification to Severe on June 7, 2021 (86 FR 30204), with a new attainment date of July 20, 2027.

⁷ South Coast Air Quality Management Dist. v. EPA, 882 F.3d 1138 (D.C. Cir. 2018). The term "South Coast II" is used in reference to the 2018 court decision to distinguish it from a decision published in 2006 also referred to as "South Coast." The earlier decision involved a challenge to the EPA's Phase 1 implementation rule for the 1997 ozone standard. South Coast Air Quality Management Dist. v. EPA, 472 F.3d 882 (D.C. Cir. 2006).

address this, in the 2018 SIP Update, CARB submitted an updated RFP demonstration that relied on a 2011 baseline year as required.⁸

For our proposed rule, we reviewed the various SIP elements contained in the 2017 Eastern Kern Ozone SIP (other than the reasonably available control measures (RACM) demonstration or the attainment demonstration), evaluated them for compliance with statutory and regulatory requirements, and concluded that they meet all applicable requirements, except for the contingency measure requirement, for which the EPA proposed conditional approval. More specifically, in our proposal rule, we based our proposed actions on the following determinations:

- CARB and the District met all applicable procedural requirements for public notice and hearing prior to the adoption and submittal of the Eastern Kern 2017 Ozone Plan, 2018
 SIP Update, and 2020 Conformity Budget Update (see 85 FR 68271 from the proposed rule);
- The 2012 base year emissions inventory from the Eastern Kern 2017 Ozone Plan is comprehensive, accurate, and current and thereby meets the requirements of CAA sections 172(c)(3) and 182(a)(1) and 40 CFR 51.1115 for the 2008 ozone NAAQS. Additionally, the future year baseline projections reflect appropriate calculation methods and the latest planning assumptions and are properly supported by the SIP-approved stationary and mobile source measures (see 85 FR 68271-68273, 68274-68276 from the proposed rule);
- The emissions statement element of the Eastern Kern 2017 Ozone Plan, including District Rule 108.2 ("Emission Statement Requirements") meets the requirements for emissions

⁸ In a letter dated December 18, 2019, from Richard W. Corey, Executive Officer, CARB, to Michael Stoker, Regional Administrator, EPA Region 9, CARB requested withdrawal of the RFP demonstration included in the Eastern Kern 2017 Ozone Plan submitted in October 2017. The RFP demonstration in the 2018 SIP Update replaced the demonstration in the Eastern Kern 2017 Ozone Plan.

- statements under CAA section 182(a)(3)(B) and 40 CFR 51.1102 for the 2008 ozone NAAQS (see 85 FR 68273-68274 from the proposed rule);
- The 15 percent rate-of-progress (ROP) demonstration element in the Eastern Kern 2017

 Ozone Plan meets the requirements of CAA section 182(b)(1) for the Eastern Kern ozone nonattainment area for the 2008 ozone NAAQS based on the previously-approved ROP demonstration for the Eastern Kern⁹ 1-hour ozone nonattainment area (see 85 FR 68274-68276 from the proposed rule);
- The RFP demonstration in the 2018 SIP Update, as corrected in the 2020 Conformity Budget Update, provides for emissions reductions of VOC or NO_X of at least 3 percent per year on average for each three-year period from a 2011 baseline year through the attainment year and thereby meets the requirements of CAA sections 172(c)(2) and 182(c)(2)(B), and 40 CFR 51.1110(a)(2)(ii) for the 2008 ozone NAAQS (see 85 FR 68274-68276 from the proposed rule);
- The motor vehicle emissions budgets in the 2020 Conformity Budget Update for the RFP milestone/attainment year of 2020 are consistent with the RFP demonstration, are clearly identified and precisely quantified, and meet all other applicable statutory and regulatory requirements in 40 CFR 93.118(e), including the adequacy criteria in 40 CFR 93.118(e)(4) and (5) (see 85 FR 68279-68280 from the proposed rule); and
- Through previous EPA approvals of the 1993 Photochemical Assessment Monitoring Station SIP revision and the "Annual Network Plan Covering Monitoring Operations in 25 California Air Districts, July 2019" with respect to the Eastern Kern element, ¹⁰ we find that the enhanced monitoring requirements under CAA section 182(c)(1) and 40

⁹ See Eastern Kern 2017 Ozone Plan, 33, and 62 FR 1150, 1172 (January 8, 1997); clarified at 84 FR 45422 (August 29, 2019).

¹⁰ Letter dated November 26, 2019, from Gwen Yoshimura, Manager, Air Quality Analysis Office, EPA Region IX, to Ravi Ramalingam, Chief, Consumer Products and Air Quality Assessment Branch, Air Quality Planning and Science Division, CARB.

CFR 51.1102 for Eastern Kern have been met with respect to the 2008 ozone NAAQS (see 85 FR 68280-68282 from the proposed rule).¹¹

In our proposed rule, in light of the *Bahr* decision,¹² we determined that the contingency measures element of the 2017 Eastern Kern Ozone SIP could not be fully approved without supplementation by the District and CARB. However, we also determined that the element could be conditionally approved as meeting the requirements of CAA sections 172(c)(9) and 182(c)(9) for the 2008 ozone NAAQS, based upon commitments by the District¹³ and CARB¹⁴ to supplement the element through submission, as a SIP revision (within one year of our final conditional approval action), of a revised District rule or rules that would add new limits or other requirements if an RFP milestone is not met or if Eastern Kern fails to attain the 2008 ozone NAAQS by the applicable attainment date. See 85 FR 68276-68279 from the proposed rule.

Please see our proposed rule for more information concerning the background for this action and for a more detailed discussion of the rationale for approval or conditional approval of the above-listed elements of the 2017 Eastern Kern Ozone SIP.

II. Public Comments and EPA Responses

The public comment period on the proposed rule opened on October 28, 2020, the date of its publication in the *Federal Register*, and closed on November 27, 2020. During this period, the EPA received one comment letter submitted by Air Law for All on behalf of the Center for Biological Diversity (referred to herein as "CBD" or "commenter"). We address CBD's comments in the following paragraphs of this final rule.

¹¹ In the proposed rule, we found that the clean fuels fleet program requirement in CAA sections 182(c)(4) and 246 and 40 CFR 51.1102 had been met in Eastern Kern through previous EPA approval of the 1994 "Opt-Out Program" SIP revision. Upon reconsideration, we now recognize that the clean fuels fleet program requirement does not apply to Eastern Kern as a reclassified Serious nonattainment area for the 2008 ozone NAAQS because the 1980 population of Eastern Kern was below 250,000, and as such, the area does not meet the population-based applicability threshold for the requirement under CAA section 246(a)(3).

¹² Bahr v. EPA, 836 F.3d 1218 (9th Cir. 2016) ("Bahr") (rejecting early-implementation of contingency measures and concluding that a contingency measure under CAA section 172(c)(9) must take effect at the time the area fails to make RFP or attain by the applicable attainment date, not before).

¹³ Letter dated September 1, 2020, from Glen E. Stephens, Air Pollution Control Officer, EKAPCD, to Richard Corey, Executive Officer, CARB.

¹⁴ Letter dated September 18, 2020, from Richard W. Corey, Executive Officer, CARB, to John Busterud, Regional Administrator, EPA Region IX.

Comment #1: Citing certain statutory provisions and selected excerpts from the EPA's implementation rules for the 1997 and 2008 ozone NAAQS, CBD asserts that, for Serious areas, the RFP demonstration must meet both the general RFP requirements in section 172(c)(2) that are tied to attainment of the ozone standards and the specific RFP requirements in section 182(c)(2)(B) for reductions in emissions of VOCs from baseline emissions. In short, CBD contends that the RFP "targets" cannot be severed from the attainment demonstration and control strategy and independently approved, and because the EPA has not proposed to approve an attainment demonstration and control strategy for the Eastern Kern nonattainment area, there is no basis to conclude that the RFP demonstration in the 2017 Eastern Kern Ozone SIP meets the general RFP requirements in section 172(c)(2).

Response to Comment #1: As CBD notes, Serious ozone nonattainment areas are subject to both the general requirements for nonattainment plans in subpart 1, and the specific requirements for ozone areas in subpart 2, including the requirements related to RFP and attainment. This is consistent with the structure of the CAA as modified under the 1990 amendments, which introduced additional subparts to part D of title I of the CAA to address requirements for specific NAAQS pollutants, including ozone (subpart 2), carbon monoxide (CO) (subpart 3), particulate matter (subpart 4), and sulfur oxides, nitrogen dioxide, and lead (subpart 5).

These subparts apply tailored requirements for these pollutants, including those based on an area's designation and classification, in addition to and often in place of the generally applicable provisions retained in subpart 1. While CAA section 172(c)(2) of subpart 1 states only that nonattainment plans "shall require reasonable further progress," CAA sections 182(b)(1) and 182(c)(2)(B) of subpart 2 provide specific percent reduction targets for ozone nonattainment areas to meet the RFP requirement. Put another way, subpart 2 further defines RFP for ozone nonattainment areas by specifying the incremental amount of emissions reduction required by set

dates for those areas.¹⁵ For Moderate ozone nonattainment areas, CAA section 182(b)(1) defines RFP by setting a specific 15% VOC reduction requirement over the first six years of the plan. For Serious and above ozone nonattainment areas, CAA section 182(c)(2)(B) defines RFP by setting specific annual percent reductions for the period following the first six-year period and allows averaging over a 3-year period. With respect to the 1-hour ozone NAAQS, the EPA stated that, by meeting the specific percent reduction requirements in CAA sections 182(b)(1) and 182(c)(2)(B), the State will also satisfy the general RFP requirements of section 172(c)(2) for the time period discussed.¹⁶

We agree with CBD that the EPA has adapted the RFP requirements under the CAA to implement the three 8-hour-average ozone NAAQS that have been promulgated since the 1990 CAA Amendments. In the "Phase 2" SIP Requirements Rule¹⁷ for the 1997 Ozone NAAQS ("Phase 2 rule"), the Agency adapted the RFP requirements of CAA sections 172(c)(2) and 182(a)(1) so as to require plans to provide for the minimum required percent reductions and, for certain Moderate areas, to provide for the reductions as necessary for attainment. See, e.g., 40 CFR 51.910(a)(1)(ii)(A) and (b)(2)(ii)(C).

In 2015, the EPA replaced the regulations promulgated through the Phase 2 rule with the regulations promulgated through the 2008 Ozone SIP Requirements Rule (SRR). In the 2008 Ozone SRR, the EPA established RFP requirements for the 2008 ozone NAAQS that are similar, in most respects, to those in the Phase 2 rule for the 1997 ozone NAAQS but that do not carry forward the aspect of the RFP requirement for the 1997 ozone NAAQS that defined RFP for

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¹⁵ CAA section 171(1) defines reasonable further progress as "such annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date." The words "this part" in the statutory definition of RFP refer to part D of title I of the CAA, which contains both the general requirements in subpart 1 and the pollutant-specific requirements in subparts 2–5 (including the ozone-specific RFP requirements in CAA sections 182(b)(1) and 182(c)(2)(B) for Serious areas).

¹⁶ 57 FR 13498, at 13510 (Moderate areas) and at 13518 (Serious areas) (April 16, 1992).

¹⁷ 70 FR 71612 (November 29, 2005).

¹⁸ 80 FR 12264 (March 6, 2015). Under 40 CFR 51.919 and 51.1119, the regulations promulgated through the 2008 Ozone SRR replaced the regulations promulgated through the Phase 2 rule, with certain exceptions not relevant here.

certain years for certain Moderate areas in terms of the reductions needed for attainment.¹⁹ More explicitly, in the 2008 Ozone SRR, the EPA defined RFP as meaning both the "emissions reductions required under CAA section 172(c)(2) which the EPA interprets to be an average 3 percent per year emissions reductions of either VOC or NO_X and CAA sections 182(c)(2)(B) and (c)(2)(C) and the 15 percent reductions over the first six years of the plan and the following three percent per year average under 40 CFR 51.1110."²⁰ (emphasis added). Thus, under the 2008 Ozone SRR, the RFP emissions reductions required for Serious and above ozone nonattainment areas under CAA section 172(c)(2) are based on a set annual percentage found in the CAA, not on the specific attainment needs for the area. In this regard, we have been even more explicit in our SRR for the 2015 ozone NAAQS:²¹ "Reasonable further progress (RFP) means the emissions reductions required under CAA sections 172(c)(2), 182(c)(2)(B), 182(c)(2)(C), and §51.1310. The EPA interprets RFP under CAA section 172(c)(2) to be an average 3 percent per year emissions reduction of either VOC or NO_X."²²

In the 2008 Ozone SRR, which is the set of regulations that governs the EPA's action here, RFP is defined in terms of percent reduction requirements, not in terms of the reductions necessary for attainment. In other words, for the 2008 ozone NAAQS, the RFP "targets" represent the minimum progress that is required under the CAA and our regulations, not necessarily all of the reductions necessary to achieve attainment of the ozone NAAQS, which could vary largely from one nonattainment area to another.

Eastern Kern is a Serious nonattainment area for the 2008 ozone NAAQS, and the RFP demonstration in the 2017 Eastern Kern Ozone SIP was developed to meet the applicable requirements of the CAA and our 2008 Ozone SRR, not the Phase 2 rule for the 1997 ozone NAAQS. Specifically, we reviewed the RFP demonstration in the 2017 Eastern Kern Ozone SIP

¹⁹ Compare the RFP requirements for the 1997 ozone NAAQS at 40 CFR 51.910(a)(1)(ii)(A) and (b)(2)(ii)(C) with the analogous provisions for the 2008 ozone NAAQS at 40 CFR 51.1110(a)(2)(i)(B).

²⁰ 40 CFR 51.1100(t).

²¹ 83 FR 62998 (December 6, 2018).

²² 40 CFR 51.1300(1).

for compliance with the requirements under 40 CFR 51.1110(a)(2)(i), which adapts the requirements under CAA sections 172(c)(2) and 182(b)(1) for Moderate areas, and 40 CFR 51.1110(a)(2)(ii), which adapts the requirements of CAA section 182(c)(2)(B) for Serious areas.²³ The requirements under 40 CFR 51.1110(a)(2)(i) and 40 CFR 51.1110(a)(2)(ii) are cumulative and, together, they require a 15 percent emission reduction from the baseline year within 6 years after the baseline year and an average emissions reduction of 3 percent per year for all remaining 3-year periods after the first 6-year period until the year of the area's attainment date. As explained further in our proposed rule, based on our evaluation, we found that the 2017 Eastern Kern Ozone SIP provided for the percent reductions required under the 2008 Ozone SRR.²⁴

Importantly, under the 2008 Ozone SRR, the RFP demonstration for the 2008 ozone NAAQS does not need to provide for the reductions needed for attainment. Thus, contrary to CBD's assertion, the RFP demonstration for Eastern Kern can be severed from the attainment demonstration and control strategy and can be independently approved, and we do so in this final rule by taking final action to approve the RFP demonstration in the 2017 Eastern Kern Ozone SIP while deferring action on the attainment demonstration.

Comment #2: CBD comments that the submittal fails to show that the substitute NO_X emissions reductions will "result in a reduction in ozone concentrations at least equivalent" to the required three percent per annum VOC emissions reductions, and as a result, the EPA's proposed approval of the RFP demonstration is arbitrary and capricious.

The commenter describes the relative roles of VOC and NO_X in ozone formation, including the existence of an "optimum" VOC to NO_X ratio for a given level of VOC (i.e., a NO_X concentration at which the maximum amount of ozone is produced). As explained by the commenter, in a " NO_X saturated" situation where NO_X levels exceed this optimum ratio, a

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²³ 40 CFR 51.1110(a)(2) applies to Eastern Kern because Eastern Kern is an area with an approved 1-hour ozone NAAQS 15 percent VOC Rate of Progress (ROP) plan.

²⁴ 85 FR 68268, at 68274-68276.

reduction in NO_X emissions can lead to increases in ozone levels, whereas in a "NO_X limited" situation with NO_X levels below the optimum ratio, a reduction in NO_X emissions decreases ozone levels. The commenter quotes the EPA's report to Congress as including, "ozone response to precursor control can vary greatly with each area" and "the relative effectiveness of controls of volatile organic compounds (VOCs) and oxides of nitrogen (NO_X) in ozone abatement varies widely."25 The commenter argues that language in the CAA, including CAA sections 185B, 182(f), and 182(c)(2)(C), indicates that Congress was aware of the issue of the relative roles of NO_x and VOC in ozone formation, including that in some scenarios NO_x reductions may actually increase ozone concentrations or at least not help to reduce ozone concentrations.

The commenter then points to the EPA's consideration of the relative effectiveness of NO_x and VOC controls for interpollutant offset trading under the new source review (NSR) permitting program and in applying requirements for major stationary sources of VOC to NO_X sources under CAA section 182(f), noting that in these situations EPA guidance indicates that photochemical grid modeling of multiple scenarios should be conducted to support demonstrations related to the relative effectiveness of controls. Through comparison of the contexts of these guidance documents, which recommended photochemical modeling, and that of section 182(c)(2)(C), the commenter suggests that the 2017 Eastern Kern Ozone SIP should have included similar photochemical grid modeling to determine whether the substitute NO_X emission reductions result in equivalent ozone reductions.

Response to Comment #2: In general, we agree with the commenter's descriptions of the relative roles of VOC and NO_X in ozone formation and geographic differences in the ozone response to precursor control, depending on whether an area is "NO_X-saturated" or "NO_Xlimited." We also agree with the commenter that Congress was aware of these issues and provided for the EPA to address them under provisions of the CAA.

²⁵ Excerpt from CBD comments (see page 10) citing "The Role of Ozone Precursors in Tropospheric Ozone Formation and Control: A Report to Congress," EPA-454/R-93-024, at 2-2 (July 1993), EPA Office of Air Quality Planning and Standards (report to Congress mandated by section 185B, 42 U.S.C. § 7511f).

However, we disagree with the commenter's characterization of the 2017 Eastern Kern Ozone SIP and the EPA's proposed approval. While the preamble of the EPA's proposed approval did not provide an analysis showing that NO_X substitution would "result in a reduction in ozone concentrations at least equivalent" to the required VOC emissions reductions needed for RFP, the supporting documentation in the docket for the proposed approval, as further clarified in our response to comments herein, provides such analysis. As described below, we find that the analysis included with the modeling and control strategy in the 2017 Eastern Kern Ozone SIP adequately demonstrates that annual and cumulative NO_X reductions in Eastern Kern will result in a reduction in ozone concentrations that is at least equivalent to the ozone reductions that would be achieved by VOC emission reductions alone. We therefore agree with the use of NO_X substitution in the RFP demonstration for Eastern Kern.

Under CAA section 182(c)(2)(B), the RFP demonstration for a Serious ozone nonattainment area will demonstrate RFP based solely on the prescribed annual rate of VOC emission reductions. Alternatively, under CAA section 182(c)(2)(C), the demonstration may satisfy the RFP requirement based on a combination of VOC and NO_X reductions if it demonstrates that reductions of VOC and NO_X would result in a reduction in ozone concentrations at least equivalent to that which would result from the amount of VOC emission reductions otherwise required. For Eastern Kern, the RFP demonstration for milestone years 2017 and 2020 both rely on a combination of VOC reductions and NO_X reductions from the RFP baseline year of 2011.

The revised RFP demonstration in the 2018 SIP Update, as corrected in the 2020 Conformity Budget Update, shows the extent to which the area is relying on NO_X emissions reductions to substitute for otherwise-required VOC reductions in milestone years 2017 and 2020. For milestone year 2017, the RFP demonstration relies on a combination of 1.4 tons per day (tpd) VOC reductions and 0.4 tpd NO_X reductions from the 2011 RFP baseline year rather than the otherwise-required VOC reductions of 1.6 tpd. That is, 0.4 tpd of NO_X reductions

substitutes for 0.2 tpd of VOC reductions otherwise required, which represents a 2:1 ratio for substitution of NO_X for VOC in RFP milestone year 2017. This substitution of NO_X reductions for VOC reductions is acceptable under CAA section 182(c)(2)(C) so long as the ozone concentration reductions from 2011 to 2017 in Eastern Kern under the combined VOC/NO_X emissions reduction scenario are at least equivalent to that which would result under the VOC-only reduction scenario.

The same applies to milestone year 2020. For that year, the RFP demonstration relies on a combination of 1.5 tpd VOC reductions and 3.1 tpd NO $_X$ reductions from the 2011 RFP baseline year rather than the otherwise-required VOC reductions of 2.3 tpd. That is, 3.1 tpd of NO $_X$ reductions substitutes for 0.8 tpd of VOC reductions otherwise required, which means that NO $_X$ is substituted for VOC in RFP milestone year 2020 at roughly a 4:1 ratio. Again, this substitution of NO $_X$ reductions for VOC reductions is acceptable under CAA section 182(c)(2)(C) so long as the ozone concentration reductions from 2011 to 2020 in Eastern Kern under the combined VOC/NO $_X$ emissions reduction scenario are at least equivalent to that which would result under the VOC-only reduction scenario.

The 2017 Eastern Kern Ozone SIP contains a demonstration supporting the use of NO_X substitution in the Eastern Kern nonattainment area. This is based on evidence that the Eastern Kern nonattainment area is NO_X -limited, and also on evidence that NO_X reductions are more effective at reducing ozone than VOC reductions alone. In this notice, we use " NO_X -limited" as meaning a situation where reducing NO_X emissions decreases ozone, not that it is more effective than reducing VOC. Elsewhere, including in the 2017 Eastern Kern Ozone SIP, the term " NO_X -limited" is sometimes used to mean the condition where NO_X reductions are more effective than VOC reductions at decreasing ozone.

Evidence that the Eastern Kern nonattainment area is NO_X-limited is presented in Figure 14 in Appendix F of the Eastern Kern 2017 Ozone Plan. Figure 14 and the explanatory text document weekday and weekend monitored ozone data at the Mojave monitoring site from 2000

 $-2015.^{26}$ The results show that in nearly all years, weekdays with their higher NO_X emissions have increased ozone, while weekends with their lower NO_X, have decreased ozone. Figure 14 includes a 1:1 line on which weekday and weekend ozone are the same.²⁷ Of the sixteen years examined, thirteen are above the 1:1 line, indicating higher weekday ozone and NO_X-limited ozone formation. All years after 2007 are above the 1:1 line. The three years (i.e., 2001, 2003, and 2007) below the 1:1 line indicate slightly higher ozone from reducing NO_X. However, all three of those years are in the "transitional" regime close to the 1:1 line; this indicates the three years have only a weak ozone response to NO_X reductions, as opposed to a disbenefit. This data analysis is strong evidence that ozone formation is NO_X-limited in the Eastern Kern nonattainment area.

The Eastern Kern 2017 Ozone Plan also included photochemical modeling results reflecting base year (2012) emissions and meteorology. The weekday-weekend analysis discussed above was repeated for modeled concentrations, which were found to be "NO_xlimited."²⁸ The degree of NO_X-limitation, that is the response of ozone to NO_X emissions reductions, was found to be comparable to and somewhat greater than that in the ambient data. Given the Eastern Kern 2017 Ozone Plan's usage of the term "NO_x-limited," the photochemical modeling also indicates that NO_X reductions are more effective than VOC at reducing ozone.²⁹

For a percentage-based NO_X substitution to result in an equivalent ozone reduction, ozone formation must not only be NO_X-limited, but also NO_X reductions must be at least as

²⁶ Eastern Kern 2017 Ozone Plan, Appendix F, F-42 – F-43; and Appendix H, H-22 – H-23.

²⁸ Eastern Kern 2017 Ozone Plan, Appendix F, Figure 14, F-42.

²⁹ The use of "NO_X-limited" in the 2017 Eastern Kern Ozone SIP is mainly consistent with NO_X reductions being more effective than VOC reductions, i.e., "NO_X-limited" in a relative sense rather than the strict sense of ozone decreasing with NO_X reductions. See Appendix F of the Eastern Kern 2017 Ozone Plan: "(NO_X-limited region in Figure 13), ozone formation shows a benefit to reductions in NO_X emissions, while changes in ROG emissions result in only minor decreases in ozone," F-40; in Figure 13, the "NO_x-limited" region is one with isopleth lines nearly parallel to the VOC axis, indicating little change in ozone as VOC changes, and relatively large changes in ozone as NO_X changes, F-41; "This region [Eastern Kern] is in close proximity to biogenic ROG emissions sources and farther away from the anthropogenic NO_X sources, such that low NO_X and high ROG reactivity conditions are prevalent, which is consistent with the region being in a NO_X-limited regime," F-42. The CARB Staff Report on the Eastern Kern 2017 Ozone Plan (see A-9 of the Staff Report) refers to NO_X-limited conditions as discussed in Finlayson-Pitts and Pitts, 1993, p.1093, whose use of "NO_X-limited" is consistent with both the relative and strict senses of the term, but given its context of "control of VOCs versus NOX," is more relevant to the relative sense.

effective at reducing ozone as VOC reductions. In the 2017 Eastern Kern Ozone SIP, CARB and the District concluded that ozone formation is " NO_X -limited," but again, they use that term to mean that NO_X reductions are more effective than VOC reductions. That conclusion was based not only on the weekday-weekend evidence of NO_X limitation but also on additional information, as described in the following paragraphs.

The 2017 Eastern Kern Ozone SIP also provides ample documentation that high ozone concentrations in Eastern Kern are mainly due to transport from the San Joaquin Valley (SJV) to the northwest and sometimes from the South Coast Air Basin (SCAB) to the southwest.³⁰ Further, NO_X and VOC emissions in the western Kern County portion of the SJV are respectively 2.5 and 8 times those within Eastern Kern; NO_X and VOC emissions in the Los Angeles County portion of SCAB are respectively 10 and 37 times those within Eastern Kern.³¹ Eastern Kern is downwind of large urban areas, and CARB noted in the 2017 Eastern Kern Ozone SIP the recognized phenomenon that locations downwind of major urban areas have high VOC:NO_X ratios and consequently are more sensitive to NO_X reduction than to VOC. The VOC:NO_x ratio of an urban air mass tends to increase as it moves downwind, since there is less input of NO_x emissions from combustion sources but continued VOC emissions input from biogenic sources, and also NO_X gets preferentially removed by other chemical and physical processes.³² In Eastern Kern, biogenic VOC emissions are 10 times as high as anthropogenic VOC in 2005 and upwards of 20 times as high during peak biogenic years, 33 which also tends to increase the VOC:NO_X ratio in Eastern Kern. EKAPCD estimated biogenic VOC emissions to be 169 tpd during the period of 2012 through 2020,³⁴ which is over five times the total baseline

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³⁰ Eastern Kern 2017 Ozone Plan, Appendix H, H-8 – H-15; CARB Staff Report on the Eastern Kern 2017 Ozone Plan, A-5.

³¹ Eastern Kern 2017 Ozone Plan, Appendix H, H-20.

 $^{^{32}}$ The VOC:NO_X ratio increases due to chemical conversion to HNO₃ and due to the process of deposition to surfaces, which removes NO_X (in the form of HNO₃) from the air more quickly than VOC. Barbara J. Finlayson-Pitts and James N. Pitts Jr., 1993, "Atmospheric Chemistry of Tropospheric Ozone Formation: Scientific and Regulatory Implications," Journal of the Air and Waste Management Association, 43:8, 1091-1100, https://doi.org/10.1080/1073161X.1993.10467187; cited in CARB Staff Report, p. A-9.

³³ Eastern Kern 2017 Ozone Plan, Appendix H, H-21.

³⁴ Eastern Kern 2017 Ozone Plan, Table 14, 37.

NO_X inventories used in the RFP demonstration in Table 3.³⁵ CARB states in the 2017 Eastern Kern Ozone SIP that "This region is in close proximity to biogenic ROG emissions sources and farther away from the large anthropogenic NO_X sources in the SJVAB and SCAB, such that low NO_X and high ROG conditions are prevalent, which is consistent with a NO_X-limited regime."³⁶ While some of this evidence could be termed qualitative, the EPA finds that it makes a compelling case that NO_X emissions reductions are more effective than VOC reduction at decreasing ozone in Eastern Kern, and therefore that percentage-based NO_X substitution results in ozone reductions at least equivalent to those that would result from the VOC reductions required for RFP.

The 2017 Eastern Kern Ozone SIP clearly documents that the Eastern Kern nonattainment area is strongly affected by transport of ozone from the SJV and SCAB.³⁷ Although the EPA's proposed action did not discuss in detail the impact of transport on RFP, we are providing additional technical information to further clarify the relationship between transport from the SJV and SCAB and ozone formation in the Eastern Kern nonattainment area.

Photochemical modeling results in the "2016 Ozone Plan for 2008 8-Hour Ozone Standard for the San Joaquin Valley" ("SJV 2016 Ozone Plan")³⁸ and analyses of the San Joaquin Valley portion of the "2018 Updates to the California State Implementation Plan" ("2018 SIP Update")³⁹ also support the conclusion that NO_X reductions are more effective than VOC at reducing ozone in the Eastern Kern nonattainment area. The EPA approved a modeled attainment demonstration for the SJV 2016 Ozone Plan that used the same meteorological and photochemical models, model domains, and setup parameters, and covered the same 2012 ozone season as the Eastern Kern modeling.⁴⁰ The SJV 2016 Ozone Plan contained an ozone isopleth

³⁵ 85 FR 68268, 68275-68276.

 $^{^{36}}$ Eastern Kern 2017 Ozone Plan, Appendix H, H-22. As already noted, the 2017 Eastern Kern Ozone SIP primarily uses "NO_X-limited" to mean NO_X reduction are more effective than VOC reductions. "SJVAB" is an acronym for the San Joaquin Valley Air Basin.

³⁷ CARB Staff Report on the Eastern Kern 2017 Ozone Plan, A-9, A-13 – A-18.

³⁸ SJV 2016 Ozone Plan, San Joaquin Valley Unified Air Pollution Control District, June 16, 2016.

³⁹ 2018 SIP Update, CARB, October 25, 2018.

⁴⁰ 84 FR 3302 (February 12, 2019).

diagram for the Clovis monitor,⁴¹ the SJV site with the highest ozone design value in 2031. In support of the 2018 SIP Update, CARB provided supplemental documentation that used the isopleth diagram to show that the SJV attainment demonstration remained valid.⁴² As part of the EPA's approval of the SJV portion of the 2018 SIP Update,⁴³ the EPA used the ozone isopleth diagram to estimate the sensitivity of ozone to VOC and NO_X emissions reductions.⁴⁴ We determined that ozone changes by 0.313 ppb per percent change in NO_X emissions, and by 0.0234 ppb per percent change in VOC emissions.⁴⁵ On a percentage basis, NO_X is 13.4 times as effective as VOC at reducing ozone at the Clovis monitor. The ozone response to emission changes is expected to be similar in western Kern County because both areas have similar meteorological conditions and a similar mix of emissions sources.

Eastern Kern is directly downwind of western Kern County. The mountain ranges to the northwest separate sparsely populated Eastern Kern from the more densely populated areas in the southern SJV, including western Kern County. However, the Tehachapi pass connects the SJV to Eastern Kern, facilitating the transport of emissions and pollutants into the region. ⁴⁶ For the reasons discussed earlier in this section, ozone formation in Eastern Kern is more NO_X-limited than the larger urban areas of the southern SJV and western Kern County. Putting these together, ozone in Eastern Kern is expected to be 13 times or more as sensitive to NO_X emissions reductions as to VOC reductions on a percentage basis.

In addition, the 2007 Ozone Plan for San Joaquin Valley included isopleth diagrams for every monitoring site, including those in Kern County, just upwind of Eastern Kern.⁴⁷ The State

⁴¹ SJV 2016 Ozone Plan, Appendix H, Figure 15, H-54. Clovis is located in Fresno County, approximately 7 miles northeast of downtown Fresno.

⁴² Email dated October 19, 2018, from Sylvia Vanderspek, CARB to Anita Lee, EPA Region IX, with attachments.

⁴³ 83 FR 61346 (November 29, 2018); See also the related final rule at 84 FR 11198 (March 25, 2019).

⁴⁴ "Technical Support Document, Proposed Phase 2 Approval of Portions of the SJV 2016 Ozone Plan and 2018 SIP Updates," Docket: EPA-R09-OAR-2018-0535, EPA Region 9, November 14, 2018, including two attachments: "Scale attainment demonstration with updated emissions" and "Effect of Updated Emissions Estimates on San Joaquin Valley Attainment Demonstration."

⁴⁵ Id.

⁴⁶ Eastern Kern 2017 Ozone Plan, H-16.

⁴⁷ San Joaquin Valley Unified Air Pollution Control District, "2007 Ozone Plan," April 30, 2007. The EPA approved the 2007 Ozone Plan at 77 FR 12652 (March 1, 2012).

used photochemical modeling to assess the effect of NO_X and VOC emissions reductions for projected years 2020 and 2023 at every site. For every location for both years, NO_X emissions reductions were more effective than VOC at reducing ozone. For example, the projected 2020 8-hour ozone design value at the Bakersfield-California Avenue site was modeled to decrease from 87 to 86 ppb when VOC is reduced by 20 percent, and from 87 to 83 ppb when NO_X is reduced by 20 percent. The corresponding values for 2023 are a decrease from 88 to 87 ppb for VOC, and a decrease from 88 to 84 ppb for NO_X.⁴⁸ This is additional evidence that NO_X reductions are more effective than VOC reductions in Eastern Kern.

Air quality in the Eastern Kern nonattainment area is also strongly affected by ozone transport from the SCAB through the Soledad Canyon located between Santa Clarita in the SCAB and Palmdale, south of Eastern Kern. ⁴⁹ Santa Clarita is approximately 65 miles from the Mojave monitor and approximately 50 miles from the southern boundary of the nonattainment area. In the South Coast Air Quality Management District's (SCAQMD's) "Final 2016 Air Quality Management Plan" ("South Coast 2016 AQMP"), SCAQMD included an isopleth for the Santa Clarita monitoring site. ⁵⁰ The isopleths for the Santa Clarita site clearly show that NO_X reductions in the area upwind of Eastern Kern are more effective than VOC reductions at reducing ozone.

The documentation associated with the Clovis and Santa Clarita monitors, representative locations in the SJV and SCAB upwind of the mountain passes through which ozone is transported to downwind Eastern Kern, demonstrates that NO_X reductions are more effective than VOC reductions in the Eastern Kern nonattainment area. This further supports the conclusion that NO_X substitution results in a reduction in ozone concentrations at least equivalent to that which would result from the amount of VOC emission reductions otherwise required for

⁴⁸ Id. in Appendix F. Photochemical Modeling Support Documents, F-15 – F-58.

⁴⁹ Eastern Kern 2017 Ozone Plan, Appendix F, F-15.

⁵⁰ South Coast 2016 AQMP, Appendix V, Attachment 4 (2031 8-Hour Ozone Isopleths), 21; and Attachment 5 (2023 8-Hour Ozone Isopleths), 21.

RFP. Even though the State's submittal lacks an isopleth diagram specifically for the Mojave site in Eastern Kern, the supporting documentation (i.e., Figure 14; the comparison of Eastern Kern emissions with emissions from western Kern County and Los Angeles County; VOC emissions from biogenic sources; and isopleths from upwind sites in the SJV and SCAB) demonstrates that the resulting NO_X reductions here will be at least equivalent to that which would result from VOC reductions alone, as required in section 182(c)(2)(C).

Based on the above, we disagree with the commenter's assertion that CAA section 182(c)(2)(C) requires the District to provide additional photochemical grid modeling to demonstrate that the substituted NO_X reductions are at least as effective as the VOC reductions that would otherwise be required under section 182(c)(2)(B).

Further, we believe that the commenter's comparison to the EPA's recommendations with respect to interpollutant trading for nonattainment NSR permitting purposes and eligibility for an exemption from NO_X requirements under CAA 182(f) are not relevant for NO_X substitution under CAA section 182(c)(2)(C). The guidance documents cited by the commenter for these examples are non-binding and do not constrain the EPA's discretion to adopt a different approach where appropriate.⁵¹ The documents recommend photochemical grid modeling in some scenarios but do not require this approach or any other specific demonstration. This reflects the EPA's acknowledgement that the level of analysis required for any particular demonstration related to NO_X and VOC reductions will differ based on context and local conditions, such as those noted by the commenter regarding the relative effectiveness of controlling each. In the context of CAA 182(c)(2)(C) and based on the EPA's responses herein, no additional modeling or demonstration is required.

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⁵¹ See EPA, "Guideline for Determining the Applicability of Nitrogen Oxide Requirements under Section 182(f)" (December 16, 1993), 1; Memorandum dated January 14, 2005, from Stephen D. Page, Director, Office of Air Quality Planning and Standards, U.S. EPA, to EPA Regional Air Directors, Regions I-X, Subject: "Guidance on Limiting Nitrogen Oxides (NO_X) Requirements Related to 8-Hour Ozone Implementation," 3; EPA-454/R-18-004, "Technical Guidance for Demonstration of Inter-Precursor Trading (IPT) for Ozone in the Nonattainment New Source Review Program," Office of Air Quality Planning and Standards (May 2018) ("IPT Guidance"), 2. The IPT Guidance specifically excludes applicability to RFP demonstrations. IPT Guidance at 2, n.1.

Comment #3: The commenter also contends that an equivalence demonstration under CAA section 182(c)(2)(C) must show equivalence throughout the nonattainment area, must be quantitative, and must be as technically rigorous as an attainment demonstration.

First, the commenter states that because CAA section 182(c)(2)(C) uses the plural "ozone concentrations," the equivalency demonstration must show equivalence throughout the nonattainment area, and not just at a single monitoring site. Otherwise, there could be ozone increases in NO_X-saturated areas within the nonattainment area that might interfere with attainment of the more stringent 2015 ozone NAAQS, and that might result in adverse public health effects even for locations meeting the ozone NAAQS because there is no safe level of ozone.

Second, the commenter criticizes the technical information in the Eastern Kern 2017 Ozone Plan as insufficient to show that NO_X substitution will result in equivalent reductions in ozone concentrations throughout the nonattainment area. The commenter states that the Eastern Kern 2017 Ozone Plan submittal documents the ozone decrease from weekend NO_X reductions at a single Mojave monitor during 2000-2015 to conclude the area is NO_X-limited, and that it makes general observations about the magnitude and distance of emissions. The commenter states that the technical information in the Eastern Kern 2017 Ozone Plan is merely qualitative, whereas the word "equivalent" in CAA section 182(c)(2)(C) means that the demonstration should be quantitative. The commenter also states that the 2017 Eastern Kern Ozone SIP should consider post-2015 data, because of post-2015 emissions changes like the replacement of NO_X combustion sources with wind and solar electricity generation, and because of the changing geographic distribution of emissions.

Lastly, the commenter states that an equivalence demonstration should be as rigorous as an attainment demonstration, which is based on photochemical modeling or another equally rigorous technique. The commenter suggests that the state could compare modeled relative response factors (RRFs) for each RFP milestone year for the 3 percent per year VOC reductions

to corresponding factors from the control strategy. Alternatively, for the demonstration, the commenter suggests that the state could use ozone isopleth diagrams together with conservative assumptions about the amount of allowable NO_X substitution.

Response to Comment #3: First, we disagree that the plural "concentrations" in CAA section 182(c)(2)(C) necessarily means that equivalence must be demonstrated throughout the nonattainment area. However, in this instance, it does not matter because all locations within the Eastern Kern nonattainment area are downwind of, and more NO_X -limited than, the SJV and the SCAB, for which NO_X reductions are more effective than VOC. Therefore, NO_X reductions are more effective than VOC for all locations in the Eastern Kern nonattainment area.

Second, we disagree that equivalence demonstrations necessarily must be quantitative estimates. Analytical information that establishes equivalence may be quantitative or qualitative, or both, depending on the facts and circumstances of any given area. In this instance, as discussed above, some of the evidence relied upon could be termed qualitative, such as the known tendency for ozone formation to become more NO_X-limited with distance downwind of an urban area, and the relative sizes of emissions inventories for Eastern Kern and the upwind areas. This relatively qualitative evidence was coupled with more quantitative assessments of the degree of NO_X-limitation (weekday-weekend differences). Qualitative evidence can be just as useful as quantitative evidence. For NO_X substitution to yield an equivalent ozone decrease as required in section 182(c)(2)(C), we only need to know that reductions of NO_X are at least as effective as reductions of VOC for reducing ozone concentrations. Further, the estimate that NO_X emissions reductions are 13 times as effective as VOC reductions is quantitative, not qualitative.

With respect to post-2015 emissions changes, we note that NO_X and VOC emissions in Eastern Kern are projected to decrease slightly after 2015 through year 2021, largely due to reductions in mobile source emissions offsetting increases from stationary and area sources.⁵² In the upwind areas of SJV and SCAB, the same is true but NO_X emissions are projected to

⁵² Eastern Kern 2017 Ozone Plan, Appendix A.

decrease at a faster rate than VOC emissions, 53 which would have the effect of increasing the VOC:NO_x ratio, making Eastern Kern even more NO_x-limited. The emissions projections in the 2017 Eastern Kern Ozone SIP take into account long-term trends for the various source categories, including electricity generation. The commenter has not cited any particular naturalgas power plant closure that would affect the Eastern Kern area, and we are not aware of any such closure. The possible replacement of NO_X-producing electricity generation by wind and solar power cited by the commenter would also tend to make the area more NO_X-limited. The geographic distribution of the emissions changes is also not of concern. Emissions from the upwind areas are channeled through a small set of mountain passes regardless of their precise upwind location. Emissions within Eastern Kern itself are so much lower than those of the upwind areas that their particular location within the nonattainment area does not affect the NO_Xlimited conditions there. Because the VOC:NO_X ratio of emissions input to the model increases between 2012 and 2020, if additional modeling were carried out using 2020 emissions, it is expected that ozone formation would be even more NO_x-limited.⁵⁴ Thus neither the magnitude nor the geographic distribution for the post-2015 emissions would change the EPA's conclusion that the NO_x substitution used for the RFP demonstration in the 2017 Eastern Kern Ozone SIP meets the requirements of CAA section 182(c)(2)(C).

Lastly, we note that CAA section 182(c)(2)(C), in contrast to CAA section 182(c)(2)(A), does not explicitly prescribe the use of photochemical grid modeling or equivalent analytical method to demonstrate the equivalence of NOx emission reductions (relative to VOC emissions reductions) on ozone concentrations. The NO_X equivalence demonstration for RFP purposes need not be based on the same analytical methods used in the attainment demonstration.

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⁵³ CARB Staff Report on Eastern Kern 2017 Ozone Plan, A-8.

 $^{^{54}}$ This is an approximation based on SJV NO_X and VOC emissions in tons per day as shown in the bar chart in CARB Staff Report on the Eastern Kern 2017 Ozone Plan (see A-8); SJV is the area most often upwind of Eastern Kern, and its photochemical modeling includes both areas. The VOC:NO_X ratios increase because NO_X declines more than VOC. Specifically the VOC:NO_X ratios for 2010, 2015, and 2020, respectively are 380/400 = 0.95, 315/267 = 1.18, and 300/205 = 1.46, an increasing sequence that spans the 2012 - 2020 period. Another estimate can be made using the SJV emissions from the 2016 SJV Ozone Plan. The summer tons per day VOC:NO_X emissions ratio increases from 337.3/339.6 = 0.99 in 2012 to 300.2/212.7 = 1.41 in 2020.

Therefore, we are approving the RFP demonstration and its reliance on NO_X substitution for a portion of the VOC emissions reductions otherwise required based on both qualitative and quantitative technical analyses.

Comment #4: CBD asserts that the EPA fails to give notice of how the submittal addresses the demonstration required under CAA section 182(c)(2)(C) and thus the EPA's proposal is not in accordance with procedure required by law. In particular, the commenter states that EPA has failed to give adequate notice of its proposed interpretation of section 182(c)(2)(C). The commenter observes that Table 3 of the proposed rule treats a percentage of NO_X reductions as equivalent to an equal percentage of VOC reductions, but asserts that the proposed rule does not explain why a percentage reduction in NO_X emissions results in equivalent ozone reductions to an equal reduction in VOC emissions, as required by section 182(c)(2)(C). The commenter suggests that the proposed rule may have used the procedure recommended in a December 1993 guidance document from the EPA's Office of Air Quality Planning and Standards entitled "NO_X Substitution Guidance." The commenter argues that because the NO_X Substitution Guidance is non-binding, the notice must indicate whether the EPA intends to adopt the Guidance's interpretation of the CAA, and that if the EPA instead believes that the Eastern Kern calculation is a legitimate demonstration for other reasons, it must re-propose the action.

Response to Comment #4: The EPA disagrees with the commenter that the proposed rulemaking fails to give adequate notice regarding our proposed approval of the District's use of NO_X substitution, or that we would be required to re-propose with additional justification prior to taking final action on this portion of the proposal. As described in responses to comments #2 and #3 above, the modeling and analysis submitted to support the District's control strategy and attainment demonstration highlight the need for significant NO_X reductions in the upwind San Joaquin Valley and South Coast Air Basin for the Eastern Kern to attain the 2008 ozone NAAQS, and demonstrate that these NO_X reductions will be more effective on a percentage basis than VOC reductions at reducing ozone concentrations in the nonattainment area. As described

below, our proposal includes a summary and analysis of relevant portions of the SIP submittals, including NO_X substitution in the RFP demonstration.

Section III.C of the proposed rulemaking describes our proposed approval of the District's RFP demonstration. 55 This section describes the statutory and regulatory requirements for an RFP demonstration, including the option under CAA section 182(c)(2)(C) to substitute NO_X emissions reductions for VOC reductions, and the reasons for the EPA's approval of this demonstration. The discussion includes citations to CAA section 182(c)(2)(C) and the implementing regulations for the 2008 ozone NAAQS, as well as relevant portions of the preamble to the 2008 Ozone SRR that address the applicable requirements. 56 The explanation that the District's RFP demonstration substitutes NO_X reductions for VOC reductions in the RFP demonstration, including the District's substitution of NO_X reductions for VOC reductions on a percentage basis, is summarized in Table 3 of the proposal. 57

As the commenter notes, the proposed rulemaking does not include a specific justification in support of the District's use of NO_X substitution on a percentage basis. The discussion and tables in section III.C of our proposal document the need for additional NO_X reductions exceeding the necessary additional VOC reductions. As discussed in Response to Comment #2, the EPA finds that the 2017 Eastern Kern Ozone SIP and additional technical documentation provide sufficient evidence that NO_X emissions reductions are more effective than VOC reductions on a percentage basis. This conclusion was based on an analysis of ambient data, pollution transport patterns, the magnitude of upwind area emissions, and basic scientific knowledge about the $VOC:NO_X$ ratios downwind of large urban areas. As addressed above, given this need for NO_X reductions and the modeled anticipated impact on Eastern Kern, substituting NO_X for VOC on a percentage-reduction basis represents a conservative approach

⁵⁵ 85 FR 68268, 68274-68276.

⁵⁶ Id. at 68274-68276 (see footnotes 55 and 65).

⁵⁷ Id. at 68275-68276.

that will result in equivalent or greater reductions in ozone concentrations than would result through the VOC-only reductions required under CAA section 182(c)(2)(B).

As the commenter notes, this approach is consistent with the procedures outlined in the EPA's 1993 NO_X Substitution Guidance. However, as the commenter also notes, the NO_X Substitution Guidance is non-binding, and the EPA must ensure that any use of NO_X substitution is reasonable in light of local conditions and needs.⁵⁸ In this case, our approval is supported by the NO_X reductions being more effective than VOC in the area, and the need for NO_X reductions as set out in the control strategies for the upwind SJV and SCAB. For this reason, we find that the proposed rulemaking and associated supporting documents included in the docket for that action provide sufficient documentation that the NO_X substitution used in the District's RFP demonstration is consistent with CAA section 182(c)(2)(C), and we disagree that the EPA would be required to re-propose with additional analysis or justification.

Comment #5: CBD provides numerous comments directed at the EPA's NO_X Substitution Guidance, contending that if the EPA intended to adopt the positions set forth in the NO_X Substitution Guidance, the proposal would be arbitrary and capricious and contrary to law because of problems with the NO_X Substitution Guidance. These comments assert generally that the NO_X Substitution Guidance contradicts CAA section 182(c)(2)(C) by recommending a procedure that fails to demonstrate any equivalence between VOC and NO_X reductions, relies on incorrect policy assumptions, and gives legal justifications that are without merit.

Response to Comment #5: Comments relating solely to the NO_X Substitution Guidance are outside the scope of this rulemaking action. As noted in our Response to Comment #4 above, our approval of the District's use of NO_X substitution is supported by local conditions and needs as documented in the modeling and analysis included in the 2017 Eastern Kern Ozone SIP, and is consistent with the requirements in CAA section 182(c)(2)(C).

 $^{^{58}}$ See NO_X Substitution Guidance at 3 (noting that the EPA approves substitution proposals on a case-by-case basis, including any reasonable substitution proposal).

Comment #6: CBD asserts that, because the EPA must disapprove the submitted RFP demonstration, the EPA cannot determine that the motor vehicle emission budgets (MVEBs) are allowable as a portion of the total allowable emissions to meet RFP, and with no measure of total allowable emissions for RFP, there is no basis for approval of the MVEBs.

Response to Comment #6: As discussed in responses to comments #1 through #4, the EPA concludes that the RFP demonstration can be approved independently of the attainment demonstration and that the substitution of NO_X emissions reductions for VOC emissions reductions in the RFP demonstration is adequately supported. In this final rule, on the basis of the rationale presented in the proposed rule and in our responses to comments, we are taking final action to approve the RFP demonstration and related MVEBs.

Comment #7: CBD contends that the MVEBs must be consistent with attainment requirements as well as RFP requirements, and in the absence of an approved attainment demonstration and control strategy, the RFP MVEBs must be disapproved. In support of this contention, CBD cites selected portions of CAA section 176(c) and the EPA's transportation conformity rule. First, under section 176(c)(1)(B)(iii), CBD notes that a Federal action cannot "delay timely attainment of any standard," and without an approved attainment demonstration and control strategy, which could require VOC and NO_X emissions reductions beyond those required by section 182(c)(2)(C), there is no way to tell if a transportation plan, improvement program, or project will "delay timely attainment" of the 2008 ozone standards, even if it stays within the proposed MVEBs.

Second, CBD notes that, under the EPA's rules for transportation conformity, the term "control strategy implementation plan revision" is defined as the "implementation plan which contains specific strategies for controlling the emissions of and reducing ambient levels of pollutants in order to satisfy CAA requirements for demonstrations of reasonable further progress *and* attainment." For attainment plans (as opposed to maintenance plans), MVEBs are

⁵⁹ 40 CFR 93.101 (emphasis added).

in part defined as "that portion of the total allowable emissions defined in the submitted or approved *control strategy implementation plan revision*." Thus, CBD argues that the MVEBs depend on the control strategy implementation plan revision, which must demonstrate both RFP and attainment.

In addition, CBD notes that the particular MVEBs proposed for approval are derived from the projected on-road mobile source emissions estimates in the attainment year (2020) emissions inventory upon which the attainment demonstration is based, and thus must be consistent with attainment requirements as well as RFP requirements. Because the EPA has not approved the attainment demonstration, including the projected attainment year emissions inventory, CBD argues that the EPA cannot approve the MVEBs that derive from that inventory.

Response to Comment #7: First, we acknowledge that the MVEBs are derived from the projected attainment year (2020) emissions inventory. However, year 2020 is both an RFP milestone year and the attainment year for the Eastern Kern Serious ozone nonattainment area. Therefore, the projected 2020 emissions inventory is the basis for both the RFP demonstration for that milestone year and for the attainment demonstration. As explained in Response to Comment #1, the RFP demonstration and attainment demonstration requirements are independent requirements under the SRR and, thus, can be approved separately. In this final action, we are approving the MVEBs only for RFP purposes and not for attainment purposes.

Second, we note that CAA section 176(c)(4)(B) obligates the EPA to promulgate, and periodically update, criteria and procedures for demonstrating and assuring conformity in the case of transportation plans, programs, and projects, and we have done so at 40 CFR part 93, subpart A ("Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. or the Federal Transit Laws") (herein, "transportation conformity rule").

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⁶⁰ Id. (emphasis added).

Our transportation conformity rule defines "motor vehicle emissions budget" as that portion of the total allowable emissions defined in the submitted or approved control strategy implementation plan revision or maintenance plan for a certain date for the purpose of meeting reasonable further progress milestones *or* demonstrating attainment or maintenance of the NAAQS...."⁶¹ Further, among the criteria we must use when evaluating a MVEB for adequacy or approval is the criterion at 40 CFR 93.118(e)(4)(iv) which requires MVEBs, when considered together with all other emissions sources, to be consistent with applicable requirements for reasonable further progress, attainment, *or* maintenance (*whichever is relevant to the given implementation plan submission*).⁶²

Thus, under our transportation conformity rule, the EPA can approve MVEBs if we find them consistent, when considered together with all other emissions sources, with the applicable requirements for RFP or attainment; it is not required that the MVEBs be consistent with RFP and attainment but only that they are consistent with the requirement that is relevant for purposes of the SIP. In this instance, while the MVEBs for year 2020 are numerically the same for both RFP and attainment, the relevant requirements are those for RFP, not attainment, and we are approving the MVEBs as consistent with those requirements, not the attainment requirements, consistent with the transportation conformity rule.⁶³ This interpretation has been upheld by the Ninth Circuit in *Natural Resources Defense Council v. EPA*, 638 F.3d 1183 (9th Cir. 2011). In *Natural Resources Defense Council*, the petitioners similarly argued that the Clean Air Act and the EPA's implementing regulations require the EPA to consider attainment data when determining the adequacy of budgets for milestone years.⁶⁴ but the Ninth Circuit agreed with the

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^{61 40} CFR 93.101 (emphasis added).

^{62 40} CFR 93.118(e)(4)(iv) (emphases added).

⁶³ The commenter claims that the EPA's adequacy determination is irrelevant for purposes of whether the EPA can approve the MVEBs, because the EPA has stated that its adequacy review "should not be used to prejudge EPA's ultimate approval or disapproval of the SIP." The EPA agrees that the adequacy determination is based on a cursory review of the SIP submittal when it is made prior to action on the SIP submittal itself. However, today's adequacy determination is based on the EPA's complete review, and approval, of the RFP demonstration in the 2017 Eastern Kern Ozone SIP.

⁶⁴ Natural Resources Defense Council v. EPA, 638 F.3d 1183, 1191 (9th Cir. 2011).

EPA that the EPA's transportation conformity rule provides otherwise. More specifically, the court agreed with the EPA that, for a milestone year, a budget need only demonstrate reasonable further progress toward the ultimate goal of attainment.⁶⁵

In light of our responses to the comments and for the reasons given in the proposed rule, we are taking final action to approve the RFP demonstration and the related MVEBs and are taking final action to find the MVEBs adequate for transportation conformity purposes.

III. Final Action

For the reasons discussed in detail in the proposed rule and summarized herein, under CAA section 110(k)(3), the EPA is taking final action to approve as a revision to the California SIP the following portions of the Eastern Kern 2017 Ozone Plan submitted by CARB on October 25, 2017, the 2018 SIP Update submitted on December 5, 2018, and the 2020 Conformity Budget Update submitted on August 31, 2020, that together comprise the 2017 Eastern Kern Ozone SIP:⁶⁶

- Base year emissions inventory element in the Eastern Kern 2017 Ozone Plan as meeting the requirements of CAA sections 172(c)(3) and 182(a)(1) and 40 CFR 51.1115 for the 2008 ozone NAAQS;
- Emissions statement element in the Eastern Kern 2017 Ozone Plan as meeting the requirements of CAA section 182(a)(3)(B) and 40 CFR 51.1102 for the 2008 ozone NAAQS;
- ROP demonstration element in the Eastern Kern 2017 Ozone Plan as meeting the requirements of CAA 182(b)(1) and 40 CFR 51.1110(a)(2) for the 2008 ozone NAAQS;
- RFP demonstration element in the 2018 SIP Update as meeting the requirements of CAA sections 172(c)(2) and 182(c)(2)(B), and 40 CFR 51.1110(a)(2)(ii) for the 2008 ozone NAAQS;

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⁶⁵ Id.

⁶⁶ As noted previously, we are deferring action on the attainment demonstration and reasonably available control measures demonstration elements of the 2017 Eastern Kern Ozone SIP at this time.

Motor vehicle emissions budgets in the 2020 Conformity Budget Update for the 2020 RFP milestone year, as shown below, because they are consistent with the RFP demonstration for the 2008 ozone NAAQS finalized for approval herein and meet the other criteria in 40 CFR 93.118(e);

Transportation Conformity Budgets for the 2008 Ozone NAAQS in		
Eastern Kern (summer planning inventory, tpd)		
Budget Year	VOC	NO_X
2020	1.3	3.6

We are also taking final action to find that:

- The enhanced monitoring requirements of CAA section 182(c)(1) and 40 CFR 51.1102 are being met in Eastern Kern for the 2008 ozone NAAQS;⁶⁷ and
- The submitted 2020 budgets included in the 2020 Conformity Budget Update are adequate for transportation conformity purposes.⁶⁸

Lastly, we are approving conditionally, under CAA section 110(k)(4), the contingency measure element of the 2017 Eastern Kern Ozone SIP as meeting the requirements of CAA sections 172(c)(9) and 182(c)(9) for RFP and attainment contingency measures. Our approval is based on commitments by the District and CARB to supplement the element through submission, as a SIP revision (within one year of our final conditional approval action), of a revised District rule or rules that would add new limits or other requirements if an RFP milestone is not met or if Eastern Kern fails to attain the 2008 ozone NAAQS by the applicable attainment date.⁶⁹

IV. Statutory and Executive Order Reviews

⁶⁷ Regarding the Serious nonattainment area requirements for new source review (NSR) and for implementation of reasonably available control technology (RACT) for the 2008 ozone NAAQS in Eastern Kern, we will be taking action as necessary on district rules addressing the NSR and RACT requirements in separate rulemakings and will evaluate compliance with the applicable Serious area nonattainment requirements at that time.

⁶⁸ Pursuant to 40 CFR 93.118(f)(2)(iii), the EPA's adequacy determination is effective upon publication of this final rule in the *Federal Register*. Upon the effective date of the adequacy determination, the 2020 budgets from the in the 2020 Conformity Budget Update will replace the budgets that were previously found adequate for use in transportation conformity determinations (i.e., the 2008 budgets from the "Eastern Kern County 2008 8-hour Ozone Early Progress Plan."

⁶⁹ Letter dated September 1, 2020, from Glen E. Stephens, Air Pollution Control Officer, EKAPCD, to Richard Corey, Executive Officer, CARB; and letter dated September 18, 2020, from Richard W. Corey, Executive Officer, CARB, to John Busterud, Regional Administrator, EPA Region IX.

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, the EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. Accordingly, this action merely approves or conditionally approves state plans as meeting federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- Does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and
- Does not provide the EPA with the discretionary authority to address disproportionate

human health or environmental effects with practical, appropriate, and legally permissible methods under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where the EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

The Congressional Review Act, 5 U.S.C. section 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the *Federal Register*. A major rule cannot take effect until 60 days after it is published in the *Federal Register*. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2)).

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Authority: 42 U.S.C. 7401 et seq.

Dated: June 16, 2021.

Deborah Jordan, Acting Regional Administrator, Region IX. For the reasons stated in the preamble, the EPA amends Part 52, chapter I, title 40 of the Code of Federal Regulations as follows:

PART 52 - APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 et seq.

Subpart F-California

2. Section 52.220 is amended by reserving paragraphs (c)(556), (557), (558), and (559), and adding paragraphs (c)(514)(ii)(A)(8), (c)(560) and (c)(561) to read as follows:

§52.220 Identification of plan - in part.

* * * * * * * * (c) * * * * (514) * * * * (ii) * * * *

(8) 2018 Updates to the California State Implementation Plan, adopted on October 25, 2018, chapter IV ("SIP Elements for Eastern Kern County"); and pages A-11 through A-14 of appendix A ("Nonattainment Area Inventories"), only.

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- (560) The following plan was submitted on October 25, 2017 by the Governor's designee.
- (i) [Reserved]

(A)

- (ii) Additional materials.
- (A) Eastern Kern Air Pollution Control District.
- (1) 2017 Ozone Attainment Plan For 2008 Federal 75 ppb 8-Hour Ozone Standard, adopted on July 27, 2017, excluding chapter XI ("Reasonably Available Control Measures Demonstration") and chapter XIII ("Attainment Demonstration").
- (2) [Reserved]

- (B) [Reserved]
- (561) The following plan was submitted on August 31, 2020 by the Governor's designee as an attachment to a letter dated August 25, 2020.
- (i) [Reserved]
- (ii) Additional materials.
- (A) California Air Resources Board.
- (1) Transportation Conformity Budget State Implementation Plan Update for the Eastern Kern 2017 Ozone Attainment Plan, release date: June 19, 2020.
- (2) [Reserved]
- (B) [Reserved]

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3. Section 52.248 is amended by adding paragraph (m) to read as follows:

§52.248 Identification of plan—conditional approval.

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(m) The EPA is conditionally approving the California State Implementation Plan (SIP) for Eastern Kern for the 2008 ozone NAAQS with respect to the contingency measures requirements of CAA sections 172(c)(9) and 182(c)(9). The conditional approval is based on a commitment from the Eastern Kern Air Pollution Control District (District) in a letter dated September 1, 2020, to adopt a specific rule revision or revisions, and a commitment from the California Air Resources Board (CARB) dated September 18, 2020, to submit the amended District rule or rules to the EPA within 12 months of the final conditional approval. If the District or CARB fail to meet their commitments within one year of the final conditional approval, the conditional approval is treated as a disapproval.

[FR Doc. 2021-13608 Filed: 6/24/2021 8:45 am; Publication Date: 6/25/2021]